

LIQUID CRYSTAL DISPLAY DEVICE WITH RETARDATION PLATES

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ABSTRACT OF THE DISCLOSURE

10 A liquid crystal display device includes a liquid  
crystal cell, polarizers, a first retardation plate  
arranged between the liquid crystal cell and the first  
polarizer, and a second retardation plate arranged  
between the liquid crystal cell and the second polarizer.  
Each retardation plate has an optical axis in a plane  
parallel to the substrate surface and a retardation of  
15 substantially  $\lambda/4$ . The optical axis of one retardation  
plate is perpendicular to the optical axis of the other.  
The polarizing axes of the polarizers are arranged at an  
angle of  $45^\circ$  with respect to the optical axes of the  
retardation plates. The liquid crystal cell is arranged  
20 such that a state of alignment of liquid crystal  
molecules changes, accompanying a change in a polar angle  
and/or change in an azimuth, upon application of a  
voltage.